COMMUNICATION

FUNCTIONS AND NEEDS OF OUR GREAT MARKETS

By Willet M. Hays,
Assistant Secretary, Department of Agriculture, Washington, D. C.

The trading pit organizations of boards of trade and chambers of commerce have come to function as crop-reporting boards as well as marts of trade. Unlike state and national crop-reporting boards, they are not local to their own country, but are also international in scope, taking account of acreages, crop conditions and harvested products of the entire world. And, unlike publicly-supported crop-reporting boards, they take into account demand as well as supply. They have more final functions than have public crop-reporting boards, because they crystallize the whole knowledge of conditions of supply and demand into actual daily prices.

These boards in the great commercial centers are, however, very inefficient reporters of crop conditions, in that they do not act as unbiased boards. The price figure which they decide upon is based only in part upon conditions relating to the supply and demand of the actual product and in part upon thoughts which grow out of the self-interest of the dealers in the ownership of margins on options and futures. The ownership of these margins, especially in case of exaggerated corners, gives such a bias to a portion of the members of these commercial price-making boards that their composite judgment is much warped.

These margins, risked on options and futures, sometimes aggregate many times more than the sum of the margins risked in the fluctuations on the price of the actual products bought and sold in the same market. In determining prices, the money at stake on "wind sales" takes a most prominent place by the side of actual changed conditions of acreage or of the development of the crop. In other words, mischievous factors arise to prevent the free action of the law of supply and demand, and the trading pit becomes an agency interfering with what would be the natural course of events in the commercial world. Associated with this fundamentally false element in these market organizations, numerous abuses arise.

Sometimes the trading pit, like a mob, is affected with collective hysteria, which then acts regardless of public interest, is demoralizing and even disgraceful in the eyes of the world.

Market trading in futures and in options is discussed by two schools of philosophy; one asserts that dealing in futures and options gives fluidity and acceleration to commerce and provides for hedging; that it enables producers, and especially manufacturers, to use all their capital in their immediate business; that it equalizes prices throughout the year to the manufacturers' advantage, by leaving the work of looking after fluctuations of price to financiers trained in speculative risks, thus placing the business of manufacture on a more conservative basis. They even claim that the machinery of the pit adds values to the actual product and thus creates new values; also that there are dangers in restricting this class of business by legislation, which claim, they assert, is proven by Germany's experience.

The other school asserts that too much fluidity and acceleration to business leads to frenzied finance, monetary panics, and business depression; that it destroys business confidence; and that it tends to center wealth in the hands of the few. This school calls attention to the fact that markets for sugar and some other products get on without dealings in options and futures, and that the efficiency of restrictive legislation has been demonstrated in southern states. They urge that bucket-shop dealing and the other forms of dealing in options and futures on a small scale are made possible by the large exchanges, where different classes of trade center. They assert also that those manufacturers, as a class, who do not hedge are more successful than those who do. And they give emphasis to the fact that these market organizations serve much the same purpose as did the Louisiana lottery, tempting weak men to their own ruin.

It may be safely asserted that this subject in its relation both to modern business and to the public welfare has not been comprehensively grasped by any one man or group of men. The intricacies of dealing in futures and in options are comprehended only by the few who are directly interested, and it is clear that they have not given due regard to the relations of these dealings to the general public nor to the many who, by speculation, lose their own financial status and while trying to get rich quick really plunge their families into the no-capital class.

It is clear that so many vital interests have come to depend upon markets for future delivery of commodities that a change to something better must be constructive rather than destructive. Therefore, to secure the greatest good for all concerned, reformative measures, it would seem, should preserve the best features in present methods of dealing while abolishing their excesses and glaring wrongs. Men trained to philosophic and dispassionate methods of scientific research and generalization, assisted by men of experience in our market practices, are needed to look broadly at the problem in all its essential details and to suggest constructive practices and devise restrictive and constructive laws which shall remedy existing evils. Plans for national and international commissions are none too broad for problems as comprehensive and as important as this.

Although dealing in futures does help oil the wheels of exchange and adds elements of conservatism, our speculative markets are great irritants and the ever-present menace of manipulation produces world market conditions at once nervous and unstable. The general feeling that there is a large element of the unreal, the selfish, the false, the wrong, the actually vicious in our general commercial markets prevents confidence and, broadly speaking, is very repressive to commerce. Correctives are needed to preserve the good and eliminate the bad from the whole situation.

It must be admitted that in making prices daily the great market performs a most comprehensive, highly important and necessary feat which no other known agency can perform. Crop-reporting agencies greatly assist, but only the trading mart can serve as the crucible in which prices current are evolved out of the conditions of supply and demand. In relation to the entire world product of any commodity, as of wheat or cotton, the markets assemble as much as they can of the facts available concerning the supply afforded by the previous crop, also concerning the raw and finished products in store and in transit; concerning the acreage and condition of growing crops and also concerning the present and prospective demand.

Thus, in case of wheat on May first, account is taken of the grain in the hands of the farmers, in country elevators and in terminal warehouses and mills. The acreage and condition of winter wheat and the acreage of spring wheat in the wheat-producing countries of the northern hemisphere are taken into account, as is also the amount of flour in store. The facts as to stores of wheat and

flour in stock, acreages of winter wheat planted in Argentina, Australasia and other southern hemisphere countries are sought. The prospective purchasing power of those who buy wheat, flour and bread is roughly determined from the industrial activities of the great wheat-buying nations.

And in determining the prospective demand for wheat, facts concerningthe prospective demand for other commodities are secured. Even the relative supplies and prices of meats are taken into consideration in securing data to help determine the prospective supplies of wheat, because, with high prices for meats, the crops used to feed live stock compete with wheat for increased acreages and thus lower the wheat acreage and raise the price of wheat. To coordinate and average all these factors into one single price figure is an important and comprehensive task. Under present conditions this work is not accomplished in a manner to give occasion for pride. Our prices fluctuate unduly and there is more restlessness than is well for the producer, the manufacturer, the dealer or the consumer. Those fluctuations which arise from changes in natural conditions should be and can be smoothed down instead of being exaggerated.

The parties in the aggregate most fundamentally interested in our markets and market prices are the primary producers and the consumers. Manufacturers, transporters and dealers, including speculators, are likewise deeply concerned; also all other lines of business, including that of banking. Every one of these classes, excepting the speculators, is interested in stability, in the absence of wide fluctuation in prices.

The manufacturer and the dealer, in order to avoid the consequences of risking wide fluctuations, often use the market for futures to hedge, *i. e.*, to sell against their own purchases. In other words, they use the machinery of speculation to make their own business less speculative. The manufacturer sells for future delivery to responsible parties the same amount of raw product as he purchases for his factory or mill, thus pitting a speculative sale against the speculative risk in his purchase. In form this is speculation, but practically it is not gambling, so far as he is concerned. He often then at once sells his finished product for future actual delivery at a price which will cover cost of raw product, cost of manufacture and profit. He thus, by a double speculative deal, insures the cost of his raw material at a certain figure, and thus insures his net profits.

The other items of fixed cost of producing manufactured products being known, he can thus affix his prices to be charged and proceed with nearly perfect assurance of modest profits. With less of risk, as he thus stands between the producer of the raw product and the consumer of the finished product, his charge for manufacture is reduced, presumably (if it stood by itself) to the advantage both of the producer and the consumer.

Each class above named, excepting the successful speculator, is a contributor to the expenses of speculating establishments. The main loss, probably, falls not on the producer or the consumer, but on the very many small speculators who on the average lose, and on the occasional large speculator who loses. And these losers not only pay for a large part of the cost of office maintenance, telegraph and other expenses attached to the speculative business, but they contribute large sums to the coffers of the successful speculators. Wealth is constantly going from these losing classes, which need their money for the building up of small family estates to endow the mother of the nation's children. Part of this lost money goes to build up the swollen estates of those few who especially succeed at speculation or, as it may properly be called, speculative gambling. There is enough of the odor of wrongdoing to produce a bad moral effect, not alone on the participants, but on the community at large.

There are no adequate statistics as to the ultimate sources from which is drawn the money won by those speculators who are successful. The commission fees paid to commission merchants who negotiate margin sales and purchase for individuals, mainly outside the membership of the exchanges, are paid by the multitude of speculators who thus risk their money on margins. The same outside speculators also, on the average, lose in their wagers with the trained dealers who are on the ground and who often combine to carry through deals in which a "community of interests" helps them to assure to themselves winnings. As suggested above, these outside dealers may even lose so much that they help pay producers enlarged prices in time of corners that "bull" prices upwards. The fact that corners are not always premeditated, but naturally grow out of the system of option sales, does not make their evil effects less.

No one has the data to determine whether, on the average, trading in options and futures decreases the price received by pro-

ducers and increases the price paid by consumers or the converse. It is perfectly clear, however, that in the large the outside speculators and the producers and consumers among them lose money to a class of men who do not really pretend either to produce, to transport or to manufacture; and they also pay the expenses of running an expensive speculative machine.

A very rough estimate places the money received from the people by exchanges and their bucket-shop appendages in America alone at upwards of $200,000,000 annually. On the face of it this seems a high price to pay for fluidity and acceleration to the market and for the opportunity of hedging. It would seem that these advantages cost the American people more money than they are worth, besides being obtained at the price of a business plan which seems to degrade our morals, as evidenced by reckless speculation and by the practices of many bucket shops. Or, to put it another way, it would seem that some plan could be devised which would give equal or better service at a fraction of the cost.

The report of Governor Hughes' Committee on Speculation in Securities and Commodities, made public in June, 1909, is a very useful contribution to this subject in that it gives numerous facts not hitherto available. The local character of this commission made it natural that the discussion would be somewhat provincial, not looking at the subject from a national standpoint, let alone from an international standpoint; nor from the point of view of the unity of interests of the brotherhood of all men. It vigorously points out abuses and evils, it rather weakly advises exchanges to "be good" and to advise their members who speculate to do so temperately. Its addition to the detailed facts as to the volume of speculative trading in commodities and as to the associated advantages and evils of dealing in options and futures makes of it a distinct mark for progression in the discussion of the subject. And no doubt it will contribute to the solution of this vexed question.

Before the Committee on Agriculture of the United States House of Representatives at the hearing on option dealing in cotton in 1910 it was estimated by a number of cotton dealers that on the New York Cotton Exchange 105,000,000 bales are sold annually. Since a bale, 500 pounds, averaging twelve cents per pound, is worth $60, this gives an aggregate of $6,300,000,000 represented in option sales of cotton. Sales of futures in wheat on the Produce Exchange

were shown of over 600,000,000 bushels, or stated in its equivalent at one dollar per bushel, $600,000,000. The record of the Coffee Exchange shows a sale of 16,000,000 bags of 250 pounds each. This represents, at seven cents per pound, nearly $300,000,000. Thus in these three commodities, the sales amount to over $7,000,000,000.

Figures secured by the present writer several years ago indicated that about one-third of the cotton sales were then between member and member of the exchange; one-third between members of the exchange and outsiders, and one-third between one outsider and another outsider, the members in this last case acting as commission men only. The members charge outsiders 7½ cents per bale commission, or, where the sellers and the buyers are both outsiders, the member receives a commission of fifteen cents per bale. Where the member buys of or sells to an outsider he literally charges the outsider 7½ cents per bale for the opportunity to bet with himself, the trained dealer, on the future price of cotton, the dealer graciously using a portion of this fee to pay the expenses of the exchange. Now, for purposes of illustration, assuming that of the 105,000,000 bales 35,000,000 are transactions between outsiders, the members at fifteen cents will receive in commissions $5,250,000. For the 35,000,000 of sales between members and outsiders, the members receive, at 7½ cents per bale, $2,625,000, making in all commission fees amounting to $7,875,000. Since the membership is limited to say 500, this provides, on the average, $15,750 per member, surely quite sufficient to pay expenses with $5,000 to $10,000 profit each.

It is probable that in the sales of 35,000,000 bales between members of the Cotton Exchange there is some eating of little fish by the big fish and allowing other little fish to enter the pond to take the place of those which were swallowed and to serve annually as food for the big fish who it is believed know how to consume the lesser fish. But the public has no feverish concern with the differences which exist among these costly appendages of trade.

As long as the irritation remains within the walls of the exchange, no systematic danger threatens the body politic; but in their buying and selling with outsiders arises inflammation which spreads outward and affects our most vital business institutions, and the homes which depend upon business for accumulative expenses and for the insurance against the rainy day. The 35,000,000 bales which members sell to or buy from outsiders at $60 per bale represent

a value of $2,100,000,000. Figures secured by the writer indicate that on settlement an average of about $2.50 per bale, or one-half cent per pound, passes from the unsuccessful bettor to the successful bettor. On 35,000,000 bales the margins thus placed at risk would amount to $87,500,000. Only estimates can be secured as to the proportions of the bets on futures on these commodities which are won by the members and by outsiders. Since estimates have run all the way from 60 per cent up to 85 and even 90 per cent, a very conservative estimate would seem to be 65 per cent. If the experienced members secure 65 per cent of the $87,500,000, risked in the bets, or $56,875,000, they receive back $13,125,000 more than half of the $87,500,000, or of the $43,750,000 which they risked; and the outsiders lost this amount. Thus, at least for the purpose of illustration, it seems fair to roughly estimate that the outsiders pay to the members in fees $7,875,000, and in winnings $13,125,000, or a total of $21,000,000.

Then the people at large are concerned also with the transactions among non-members. A goodly proportion of these trades are between speculators who are not members of the exchange and outsiders who bet in a small way. Some of these speculators operate in such an illegitimate manner that they could not secure election to membership, others are barred by the low limit to the number of members. Many of these speculators are far removed from the seats of the exchanges and are often organized for business in the form of what are commonly called bucket shops. This class of dealing is worst of all because so little under law or restraint. Estimates are well nigh useless here, because so little is known "outside the trade" on which to base estimates.

But, taking the estimate of $21,000,000 above, for which the writer believes there is a fair basis, and to be more than conservative, assume that the smaller people lose another $9,000,000 through dealing with speculators with business connections with the exchanges, or who assume to have such connection, and we have a total of $30,000,000 lost, for the most part by the middle and poorer classes of people, on cotton dealing. Of the 12,000,000 bales of cotton produced in this country, we manufacture more than 4,000,000 bales, worth say $240,000,000. In case of not more than $100,000,000 of this we may estimate that there may be hedging. The wrong transference of $30,000,000 in order that a group of manufacturers

may have the privilege of hedging, with their fellows doing nearly or quite as well without, is very costly.

There is evidence that the really large speculative dealing is in wheat on the Chicago market. Estimates made some years ago indicate that 90,000,000,000 bushels of grain sales were made annually in Chicago. Applying the same method of calculation to this as that used for cotton, and the figures lost by the small speculators on all commodities run into a few hundred million. Viewed as a matter of wealth distribution, produce and stock exchanges evidently change vast sums from the middle classes to certain rich speculators. They cause distrust and sometimes lead to industrial panics; but their worst feature is their inculcation of a lack of steady business honesty among people who yield to temptation to get something for nothing.

There is a growing demand that the methods of our markets which deal in futures and options should be investigated with that thoroughness which will provide a basis for corrective action. Of the fact that restrictive laws have the effect of stopping the excesses in sales of futures there is abundant evidence in results from the legislation of various south Atlantic states. Federal laws making illegal the dealing in options and futures have been proposed which have resulted in a beginning of a study of the intricacies of the problem. Those directly interested in dealing in options and futures have abundantly demonstrated that they have the advantage of having technical knowledge of the subject and of being able easily to center their arguments. Those not interested specifically, but concerned on principle, have not been so organized as to represent the public interest before legislative bodies either with an adequate grasp of the subject or with an aroused public will. Men who have proposed regulation cannot claim to have presented their side of the case as ably as the opposition to regulation has stated theirs. No doubt some of our universities have economists with abilities suited to attacking this problem. Some of the professors of commercial geography have collected many data as to the flow of commodities along the great highways of commerce which connect international markets, which would be useful to students of this subject. Minds able to investigate deeply, to master details, to appreciate great economic and moral interests, to give practical generalization and to coordinate constructively the

functions of public crop-reporting agencies and price-making markets are needed to evolve a general informational and marketing scheme for farm products.

If markets which provide for dealing in options and futures could confine these forms of trading to narrow limits, the manufacturer could hedge against his purchases, allowing some one else to carry part of this speculative risk; and others could take advantage of this amount of trading in futures and options as a sort of clearing house to facilitate trade. Simply to illustrate, if a law could be so framed as to confine speculative trading in a given market to quadruple the actual transference of product in that market, it might conserve a useful function by eliminating the great evil of unrestricted speculative movements and thus avoid the state of uncertainty which results from not knowing when speculative excesses will occur. If all deals in options and futures were required to be made public in order to be legal, this for all practical purposes might restrict speculative sales without abolishing these features which are useful in actual business.

It may be that the market organization, possibly under a state or national law, could place a prohibitive tax on all sales of options and futures beyond a limit which would be sufficient to permit all needed speculative sales, but would prevent gambling excesses. This would enable one set of men trained in financing the carrying of raw products to take care of much of the risk, thus relieving the manufacturer who, by hedging, could make his business less speculative. Possibly laws would be effective which would define the amount of trade in futures and options which would be considered speculation and the additional amount which would be considered gambling, with penalties on any market organization for allowing its members to exceed the legal limit. If the excess of sales of options and futures above a given number on a given market were declared by law to be gambling, market organizations permitting more than the limited amount of sales could be denied the use of the mails, telegraph, telephone, express companies and other common carriers. These specific suggestions are not given here so much with a view to offering a solution of this knotty problem as to illustrate the proposal that this subject is open to possible and practical suggestion, and that there is reason for the hope that some solution for the problem of our market excesses may be found.

That public crop-reporting agencies should be greatly amplified, especially in their world area aspects, so as more adequately to perform some of the functions now performed by the large markets seems clear. Publicity, at more frequent intervals, of acreages, conditions, yields, stocks in store and prospective demand might prove the safest and most efficient cure for fluctuations which come from speculation based on private crop reports.

Public establishments for providing statistics useful to trade are gradually coming into existence. In the United States basic work is done every fifth year by the United States Census Office, when the acreage, the total amount of farm crop products grown and the numbers of live stock are secured by an actual census count. Thus, in 1910, when census taking was under way, every farm in the entire country was visited, and acreages, quantities and other facts were secured concerning each farm crop of the previous year, 1909, and the number of each class of live stock was ascertained.

The Bureau of Statistics of the United States Department of Agriculture, during each succeeding year of the next five years, uses the census figures as a basis upon which to estimate changes in acreages and in numbers of live stock. These acreages, as ascertained by the census and the Bureau of Statistics, are used as bases upon which to estimate the conditions of the respective crops throughout the season, also the yield per acre, and to determine approximately the production per state and for the entire country. Thus, throughout the year the markets are kept informed as to acreage, progressive conditions of growth and quantities harvested. It must be admitted that the public generally makes little direct use of these reports, but relies almost wholly upon the interpretations of them put out by the great market centers in the form of current price figures.

The method of securing the information, of reducing it to figures representing averages and totals and of publishing the figures may be of interest. The Bureau of Statistics of the United States Department of Agriculture is the largest and most highly-organized department devoted to reports of current crop conditions supported by any country in the world. With a current expense fund of approximately $150,000 annually for that purpose, it employs about fifty statisticians and clerks in the City of Washington and a third as many special traveling reporting agents outside of Washington.

A state agent in each state is also paid for part of his time; while nearly three thousand county correspondents and thirty thousand township and individual correspondents give voluntary service as crop reporters. There are thus received in the Washington office four classes of reports on each crop. The reports by states, from special traveling agents, each of whom has from one to four states, and those from the state agents are sent directly to the Secretary of Agriculture and are deposited in a safe until the crop-reporting board meets on crop-reporting day. The reports from the county correspondents and also those from the township correspondents are sent to the clerical force at Washington, where they are assembled and averaged by states and the summarized results, in fractional parts, are also placed in the Secretary's safe till the crop-reporting board is in session and ready to use them.

On report day the crop-reporting board, consisting of the statistician and four assistant statisticians and agents, receives the four classes of reports in a meeting behind closed doors. With the aid of clerks, the estimates from the different classes of correspondents are entered on sheets in four columns. Each board member is supplied with a copy and, working independently at a separate table, he resolves the four figures for the given crop for each state into a common figure and thus constructs a fifth column. The five columns of figures, one representing averages from each of the several members, are then all copied side by side on a single sheet and the board in session merges the judgment of its five members into single figures for each state. This is something more than averaging, because the board often has reasons for giving more weight to the judgment of one class of reporters than to that of the others; and there are at times other legitimate sources of information than that which comes from the four classes of reporting agencies.

When the hour set for announcing the figures arrives the board has its report worked out with national as well as state averages and totals, and manifold copies are made of a table of these figures together with a few brief paragraphs stating the leading facts as to the acreage and condition of each crop. A few minutes before the clock strikes the hour the board and the Secretary of Agriculture sign the report and take it to the corridor near the telegraph room. Several copies of the report sheets are laid, face down, on a table. Eight or ten telegraph operators and news reporters are ready for

the stroke of the clock, and with the word they seize the papers and rush to the telegraph and telephone instruments. In a single minute the wires have flashed the leading figures to New York, Chicago, New Orleans and other great markets.

Now contrast this procedure with what takes place at the market end of the wire. There, in the trading pit, hundreds of men watch the clock, and when the telegraphic figures giving the estimates of the acreage, or yield, or total product, of a given crop are shouted out, or are placed on the blackboard, each dealer forms a judgment as to whether to bid higher or lower on the products affected by the reports. The conclusion of the crop-reporting board, taken in the most serene calmness of a quiet room in a building surrounded by a beautiful park in the National Capital, suddenly, on the wings of lightning, flashes into the bedlam-like mart where fortunes are made or lost in a moment. The selling pit has a spasm and in a few moments the price of the commodity has risen or fallen to a fairly stable equilibrium at a point warranted by the newly-reported facts as to crop conditions.

World Acreages

If the reports thus sent to the great market included the entire world acreage the effect would be still more interesting. At present individuals and firms, and groups of operators cooperating privately, secure reports of crops from other countries and also reports of products from previous crops in store together with the prospective demand. There is thus much private information utilized at the great market centers in arriving at the daily price current. And too often the speculating public is led to believe, or allowed to believe, that the partial facts which are made public from these private sources tell the whole truth when they may not. And it is at least widely believed that those dealers who have the more complete and accurate information sometimes proceed first to buy many margins in option and future deals and follow this movement by publishing their privately secured facts which will turn the margins in their favor.

The public has no special concern as to which of two groups of trained speculators beats the other by securing first and taking advantage of the facts of changed conditions. The public is, however, deeply concerned with the practices of these boards when they entice men of small means who are without knowledge of the

changed conditions of crops to take risks in a nearly "sure thing" game with speculation in wheat or cotton, just as it was concerned with the Louisiana lottery. The public is also concerned to avoid unnecessary fluctuation in prices, which greatly hampers manufacture and often seriously affects the interests of producers and consumers and also of dealers in actual products. There exists a strong consensus of opinion against market organizations for excessive dealing in options and futures, and if a plan were devised which would furnish an efficient substitute for the marketing machinery which has there grown up entwined with the option and future features, such new organization would be generally demanded. Were a really efficient scheme devised for giving great fluidity to the markets and to the transfer of credits, the people would demand of Congress that it be installed by a restrictive and constructive federal law. There are many intelligent men who believe that if all markets for dealing in options and futures were placed under restrictions so stringent as to prohibit the gambling as now carried out, business would adjust itself to the change very readily.

One of the constructive needs is world area statistics. The new International Institute of Agriculture at Rome, recently organized, has, as one of its three departments, a bureau of agricultural statistics, which collects world area data and supplies these facts to the forty-nine adhering countries. It thus gives basic statistics of acreages, conditions and total products as assembled at Rome, Italy. This information is assembled in a rather open way and is published as soon as it is tabulated and made available. At present its information is rather old when received by the markets, but it is possible that eventually not only monthly reports will be issued during the season of growth of a given crop, but that throughout the month facts of special changes arising from storms, droughts or other quickly operating causes may be assembled and reported at once when they have occurred. That Institute collects available facts through agencies already organized in the different countries; and it is successfully encouraging the equipment of statistical crop-reporting bureaus in all countries.

Two methods of procedure have been suggested for assembling and giving out information from Rome. Under the first method no especial effort will be made at keeping the facts in confidence while assembling them. Each country will compile its own statistics,

publishing them when it pleases and sending the general results to Rome. The Institute will compile these facts for the world areas of each crop and publish them. Under this plan it will be able gradually to improve the statistical organizations throughout the world. Better basic census statistics of actual acreages and quantities grown in census years, preferably once in five years, will be made by the adhering nations, and more accurate compilations of current prices will be made. Annual estimates of acreages and seasonal time of planting, growth and conditions for harvesting will be based on better and more numerous data. Markets will have better annual data and better ten-year averages as bases for comparison to determine the probable prices the estimated crops of a given year should and will command in the markets. Gradually the Institute can extend its records, in many cases based on actual census-like counts, to amounts of each product consumed in the respective countries, the amounts in transit and in store, and may also estimate the probable demand or consumption in each country. Thus the figures of the Institute may more generally supplant the figures of non-public agencies and thus come to be the recognized bases for nearly all comparisons and estimates of acreages, yields per acre, quantities and quality of products, also of demand and of prospective demand, and thus serve in a more potent way in providing stability of average daily current prices. Even under this plan there will be some holding of final figures in confidence until they are simultaneously published to all agencies desiring them.

The second method contemplates the assembling of data in confidence, not with great secrecy, but without allowing publicity of data until they can be open to the use simultaneously of all parties who desire them as is now done by the United States Department of Agriculture. Under this plan an organization somewhat more formal than that now in use by the United States Department of Agriculture has been suggested. Using the political divisions of this country to serve in stating the scheme, the plan suggested is something as follows: Have in each township a man who will spend a day once a month, and an additional day on occasion of special changes of crops due to storm, drought, etc., in gaining knowledge of acreages, conditions of growth, yield and quality of crops, and number of live stock and their condition. Have him report in writing to a district agent at a central mailing point where are received

township reports from a few score of townships. Let this district agent compile the reports and wire totals to the state agent, who would compile the district reports into state averages to be wired to Washington. The national crop-reporting board can then compile the state reports into national averages and cable the totals to Rome.

Possibly machines could be devised for use by the district and state agents, and by the national bureau in compiling weighted averages. If the closing compilations at least could thus be done by calculating machines, it might give even greater assurance both of accuracy and that all the figures be kept in confidence. Or experience may prove that the present crop-reporting board plan is not only safe but better adapted to giving accuracy to the estimates which are sent by a nation to the board at Rome. At least, experiments should be undertaken to find that method which would be both efficient in getting accurate and frequent reports and economical for each country.

There seems to be no difficulty in keeping telegrams in confidence under telegraphic keys such as the one devised for use by the United States Crop-Reporting Board; and the amount of telegraphing suggested is not so large as to be a serious item of expense. The cost of the time of the local estimating agents is the most serious financial matter. The lack of organization in some countries and the difficulty at first of securing dependable local reporters are thought to be the large difficulties. Traveling agents to check up reports so as to prevent biased statements, and to educate district and state agents, as proven by the experience of the United States Department of Agriculture, do much to give accuracy to the primary estimates. The quinquennial census, compiled for township units, checks up township reporters, serving both to give them bases for their estimates and also to put the accuracy of their work to the test, that they may feel the responsibility of giving correct statements of actual fact.

With really comprehensive and efficient crop reports of the world areas of a given crop, the great markets should be able to maintain fairly steady prices, fluctuating only as the facts of production and consumption warrant. Such reports, issued by an agency which all parties trust as to its fairness and efficiency, would be the main factors in determining prices. These reports, together with a simple law, probably restricting rather than abolishing the

amount of dealing in options and futures to adequately meet all requirements of hedging, might give nearly ideal market conditions. On the other hand, abolishing deals in options and futures might prove the better, but either alternative would seem preferable to the overwrought system in which gambling is mixed with business in a most unbusinesslike manner. If laws prohibiting dealing in margins are not practical in a single country, world government in market matters may create conditions under which world law along this line may be effective. Our markets are world wide and our statistical service is rapidly becoming world wide.

A weak investigation which does not enter into the problem in the most virile and comprehensive way, by failing of results, might help to entrench the dominating philosophy of the nearly unrestricted gaming pit. Possibly some plan of a national or international commission may be devised which will spend time enough, energy enough, scientific research enough and business sense enough to comprehend the essential factors and to advise either that we continue the present system; that some modified form of "future" price making be adopted, or that dealing in options and futures be abolished. In any event the next step needed would seem to be a most efficient investigation.

It is possible, and even probable, that a broader public scheme for quickly gathering and dispatching crop statistics and facts concerning market needs would serve producers, dealers in and consumers of fruits and vegetables as well as those interested in the non-perishable products. In case of these latter products, no very comprehensive system of statistics has been devised; but even here the public gathering of statistics might prove to be very useful to supplement the very awkward and inefficient system of information now served by private agencies to the growers on the one hand and to the markets on the other.

Under the second plan, outlined above, of assembling crop reports, the township agents could easily include reports on such perishable crops as strawberries, peaches and canteloupes. The telephone and telegraph could be used to assemble at once the estimates of amounts of ripening crops, and to give the information to distant markets. This information could also go at once to the railways to guide them in supplying a sufficient number of refrigerator cars. Associations of producers could also be supplied with information

as to the markets most needing shipments, as gathered by paid agents in those markets, that they might bill their car lots to the most favorable markets or might deflect cars already part way on their journey, thus avoiding glutted markets and supplying all consumers in the most equitable manner.

Things world wide in their needs are not easily organized in the public interest. World peace is more needed on account of markets than most people imagine. World government has already been inaugurated. The International Institute of Agriculture at Rome is the first beginnings of an economic department. Even if its protocol or constitution need to be enlarged for that purpose, would not that Institute be the best auspices under which a commission could study world trade? In the meantime, would not national commissions to study international trade practices be a good preliminary step?